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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,516	02/05/2004	Frederick M. Mako	MAKO-12 CONT	6541
7590 02/01/2006			EXAMINER	
Ansel M. Schwartz Suite 304 201 N. Craig Street Pittsburgh, PA 15213			MAYES, MELVIN C	
			ART UNIT	PAPER NUMBER
			1734	

DATE MAILED: 02/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/773,516

Applicant(s)

MAKO ET AL.

Examiner

Melvin Curtis Mayes

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

(1)

A request for continued examination under 37 CFR 1.114 was filed in this application after appeal to the Board of Patent Appeals and Interferences, but prior to a decision on the appeal. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on January 14, 2006 has been entered.

Double Patenting

(2)

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

(3)

Claims 9-11 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4 of U.S. Patent No. 6,692,597 in view of Mizuhara 4,783,229.

U.S. Patent No. 6,692,597 claims a method of forming a joint between a first body and a second body comprising: applying a slurry to an end of a first body of silicon carbide (ceramic); applying the slurry to an end of the second body made of silicon carbide (ceramic); heating the first body and the second body in a collar which forms a joint; wherein the applying step includes applying slurry of silicon carbide powder having particle size between 20 nanometers and 35 microns, wherein the applying step includes applying slurry of silicon carbide powder having at least two distinct particle sizes and wherein the heating step includes heating to 1400 degrees centigrade. U.S. Patent No. 6,692,597 does not claim providing the first and second bodies each with a tapered area to which the slurry is applied.

Mizuhara teaches that in joining two ceramic tubes by a joining compound to make a longer tube, the ends of the tubes are ground to a taper that mates with each other to increase the length of the contact and thereby considerably strengthening the joint (col. 1, lines 16-47).

It would have been obvious to one of ordinary skill in the art to have modified the method of U.S. Patent No. 6,692,597 for forming a joint between first and second bodies in a collar by providing the ends of the bodies as tapered, as taught by Mizuhara, to increase the length of the contact and thereby considerably strengthening the joint.

Claim Rejections - 35 USC § 102

(4)

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(5)

Claim 9 is rejected under 35 U.S.C. 102(e) as being anticipated by DiChiara, Jr.
6,494,979.

DiChiara, Jr. disclose a method of bonding thermal tile insulation comprising: providing first and second tile members of a homogenous alumina enhanced thermal barriers (AETB) material (a ceramic); applying a ceramic/organic thermal setting binder to each of the mating surfaces of the first and second tile members; placing the mating surfaces into contact with one another; and firing at 2000-2400°F (1093-1315°C) to couple the mating surfaces to one another. The first and second tile members are preferably formed with mitered (tapered) end portions so that the mating surfaces are angled to increase surface area of the joint and increase the strength of the insulating body in the area of the joint (col. 3-6, Example II).

(AETB materials comprise silica fibers, aluminoborosilicate fibers and alumina fibers and thus the tile members are of ceramic (see Belunova et al. 5,569,423, col. 2, lines 4-6).

Claim Rejections - 35 USC § 103

(6)

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

(7)

Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 6-256067 in view of DiChiara, Jr. 6,494,979.

JP 6-256067 (JP '067) discloses a method of joining ceramics comprising: providing a slurry of polysilazane compound, polycarbosilane compound and silicon carbide powder of mean particle diameter of 2 micrometers in solvent; applying the slurry to the end faces of two silicon carbide bars; gluing the end faces together; and calcinating (heating) at temperature of 1200°C to maximize flexural strength (computer translation ([0024]-[0026], Table 2). JP '067 does not disclose providing the end faces of the silicon carbide bars to which the slurry is applied as tapered.

DiChiara, Jr. teaches that in bonding ceramic members at their end portions using a ceramic binder, the end portions are provided as mitered so that the mating surfaces are angled with respect to the exterior surfaces of the members to increase the surface area of the joint as compared to a conventional butt joint to increase the strength in the area of the joint (col. 5, lines 29-36).

It would have been obvious to one of ordinary skill in the art to have modified the method of JP '067 for bonding two silicon carbide bars at their end faces by providing the end faces as mitered (tapered), as taught by DiChiara, Jr., to increase the surface area of the joint

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compared to a conventional butt joint to increase the strength in the area of the joint bonded by ceramic. Providing the end faces of the two ceramic bars as mitered, and thus tapered, would have been obvious to one of ordinary skill in the art to increase the strength of the joint between the bars by increasing the surface area of the joint, as taught by DiChiara, Jr.

By providing the silicon carbide powder of mean particle diameter of 2 microns, the slurry applied to the end faces includes silicon carbide powder having particle size in the range between 20 nm and 35 microns, as claimed in Claim 10, and includes silicon carbide powder having at least two distinct particles sizes, as claimed in Claim 11, since a mean particle size of 2 microns implies that there is a range of particle sizes, the mean size of which is 2 microns.

Conclusion

(8)

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


(9)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melvin Curtis Mayes whose telephone number is 571-272-1234. The examiner can normally be reached on Mon-Fri 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Fiorilla can be reached on 571-272-1187. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Melvin Curtis Mayes
Primary Examiner
Art Unit 1734

MCM
January 26, 2006